including a heating stage in which said semiconductor wafer is heated by said plurality of lamps;

during at least one stage of said predetermined heat cycle, providing a gas to selectively control the temperature of at least one of said localized regions of said semiconductor wafer to minimize temperature deviation of said at least one localized region from said predetermined temperature.

REMARKS

Favorable reconsideration and allowance of the present application is respectfully requested.

Currently, claims 1-2 and 4-13, including independent claim 1, remain pending in the present application. Independent claim 1 is generally directed to a method of heat treating a semiconductor wafer placed in a thermal processing chamber. While present within the thermal processing chamber, the wafer is subjected to a predetermined heating cycle that can include various heating and/or cooling stages. For example, the predetermined heating cycle includes at least one heating stage in which a plurality of lamps heat the wafer. The method of claim 1 also includes providing a gas to selectively control the temperature of at least one of a plurality of localized regions of the wafer to minimize temperature deviation of the localized region from a predetermined temperature.

Various advantages and benefits are achieved through this method. For instance, the temperature profile of the semiconductor wafer can be maintained at a substantially uniform temperature throughout the entire predetermined heating cycle, which may include ramp-up, steady state, and ramp-down stages. Moreover, by